Short Communication

The five factor model of personality and the non-medical use of prescription drugs: Associations in a young adult sample

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ABSTRACT

Personality traits are associated with illicit drug use and substance use disorders. Non-medical use of prescription drugs (NMUPD), the use of medications without a physician's prescription, is increasingly prevalent among young adults. Research suggests that dimensions of the five factor model of personality are predictive of NMUPD, but this has yet to be explored in young adults. The current study examined these relations and found that neuroticism and openness to experience were predictors of NMUPD, while conscientiousness acted as a protective factor. These relations were seen to varying degrees across different drug classes and suggest that personality traits are important to consider in college-aged samples when identifying those most at risk for negative consequences associated with NMUPD.

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1. Introduction

Research has demonstrated that personality traits are associated with illicit drug use and substance use disorders (e.g., Kotov, Gamez, Schmidt, & Watson, 2010). Most prior work has examined relationships between personality and traditional drugs of abuse (e.g., alcohol, marijuana, Kotov et al., 2010). A more recent substance use trend in the general population is the non-medical use of prescription drugs (NMUPD), the use of psychotropic or analgesic medications without a physician's prescription. NMUPD has become increasingly problematic in the United States, especially among young adults (McCabe & Boyd, 2005).

1.1. NMUPD and young adults

National data suggest that illicit drug use is highest among young adults aged 18–25 (SAMHSA, 2011). Young adults have the highest rates of past-month NMUPD (5.9%) when compared to youth aged 12–17 (3.0%) and adults 26 and older (2.2%; SAMHSA, 2011). Other data with national samples have reported that NMUPD is a risk factor for future drug dependence (Schepis & Krishnan-Sarin, 2008), binge drinking (McCauley et al., 2011), and substance use disorders (Schepis & Hakes, 2011). Cross-sectional studies have also linked NMUPD to elevated risk

for drug overdose (Wunsch, Nakamoto, Behonick, & Massello, 2009).

1.2. Personality and NMUPD

Most prior research assessing the relationship between personality traits and NMUPD has examined lower-order traits. For example, Lookatch, Dunne, and Katz (2012) reported that impulsivity and sensation seeking were significant univariate predictors of the non-medical use of prescription stimulants in a sample of college students. Similarly, McLarnon, Monaghan, Stewart, and Barrett (2011) found impulsivity and sensation seeking to be associated with intentional misuse (e.g., exceeding the recommended dosage) of sedatives and anxiolytics in a community sample of adults who had been prescribed these medications.

One prior study has examined the utility of the five factor model of personality in predicting NMUPD. Turiano, Whiteman, Hampson, Roberts, and Mrozczek (2012) examined longitudinal relationships between personality traits and drug use among middle-aged adults. Their results suggested that those higher in neuroticism at baseline had significantly higher odds of prescription drug misuse at follow-up nine years later, while those higher in conscientiousness at baseline had significantly lower odds of prescription drug misuse at follow-up. These results are consistent with past research illustrating that highly conscientious individuals tend to refrain from harmful drug use (Booth-Kewley & Vickers, 1994), while highly neurotic individuals tend to use alcohol and some

recreational drugs at higher rates (Malouff, Thorsteinsson, Rooke, & Schutte, 2007; Terracciano, Lockenhoff, Crum, Bienvenu, & Costa, 2008). Other research has found that higher openness to experience is associated with marijuana use (Booth-Kewley & Vickers, 1994; Terracciano et al., 2008). Low agreeableness has also been associated with alcohol use (Malouff et al., 2007).

1.3. Present study

Existing literature has only examined NMUPD and big 5 personality traits among middle-aged adults. With young adults being the group most at risk for NMUPD, further research exploring broad personality traits and NMUPD is warranted. Most prior work examining relationships between personality and NMUPD has focused on overall use of these medications rather than assessing relationships between personality factors and non-medical use of specific classes of medications. The present analysis extends past research by evaluating how the dimensions of the five factor model of personality are linked to NMUPD in young adults. The present study also examines relationships between different dimensions of the five factor model and non-medical use of each of the four major classes of prescription drugs that are utilized non-medically (analgesics, anxiolytics, stimulants typically prescribed for attention-deficit/hyperactivity disorder, and sedatives; SAMHSA, 2011).

2. Method

A survey was administered to students enrolled in undergraduate psychology classes at a large public university in the Mid-Atlantic region of the United States. All surveys were completed anonymously online via a password-protected, secure survey system. The system was set up to award course credit automatically while masking participant identities from the researchers. A total of 795 participants completed the survey. Because we were specifically interested in NMUPD in young adults, data analyses were restricted to individuals who were 18–25 years of age (N = 767), a common age range used for defining young adults (SAMHSA, 2011). All study methods and materials were approved by the relevant Institutional Review Board.

2.1. Measures

2.1.1. Demographics
Participants were asked their gender, age, year in school, race/ethnicity, employment status, and whether they were a member of a fraternity/sorority.

2.1.2. Personality
Participants also completed the big five inventory (BFI; John, Donahue, & Kentle, 1991), a 44-item self-report inventory of personality description items. The BFI assesses the largest five dimensions of personality: extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience. The BFI has shown good convergent and discriminant validity with other measures of the big five dimensions of personality, has acceptable test–retest reliability, and has shown utility in prior studies assessing these dimensions (Srivastava, John, Gosling, & Potter, 2003). BFI subscales had acceptable internal consistency within the present sample, with alphas ranging from .75 (conscientiousness) to .78 (extraversion).

2.1.3. NMUPD
Participants were initially asked to respond to a Yes/No question asking if they had ever used a prescription medication without a doctor's prescription. For participants who answered yes,

separate questions asked about the number of times in their lifetime and in the last 3 months they had used medications spanning four classes of drugs: analgesics (e.g., Vicodin, Oxycotin), anxiolytics (e.g., Xanax, Valium), stimulants typically used to treat attention-deficit disorder (e.g., Ritalin, Adderall), and sedatives (e.g., Ambien, Halcion). Responses were collapsed across all specific medications, within class, to determine if participants had used that class of medication. Questions similar to these have shown utility in previous research (Benotsch, Koester, Luckman, Martin, & Cejka, 2011; McCabe & Boyd, 2005).

2.2. Data quality assurances and statistical analyses

All surveys were examined for inconsistencies and invalid responses. Missing data were omitted from analyses, resulting in slightly different ns for various statistical tests.

3. Results

Among the 767 participants, the mean age was 18.9 years (SD = 1.4). The sample largely consisted of female participants (63%). The majority of the sample was white (52.0%), with the remainder being African-American (20.9%), Asian-American (12.0%), Latino/a (4.7%), Native-American (0.1%), or other/mixed racial or ethnic heritage (10.3%). Although each college class was represented, most participants were in their first two years of college: 64% indicated that they were freshmen, 22% sophomore, 10% junior, 3% senior, and 1% other. Ten percent of participants indicated that they were a member of a fraternity or sorority and 32% indicated they were employed.

3.1. NMUPD

Overall, 27.9% of participants reported lifetime NMUPD with the most commonly used medications being stimulants (18.9%), followed by analgesics (17.2%), anxiolytics (11.6%), and sedatives (4.2%). Among participants who reported lifetime NMUPD, the mean number of times used was 64.98 (SD = 354.56; median = 7.0). A smaller number (17.2%) reported NMUPD in the past 3 months, with stimulants again being the most popular (12.3%), followed by analgesics (7.7%), anxiolytics (5.5%) and sedatives (1.8%). Among participants who reported NMUPD in the past 3 months, the mean number of times used during this period was 13.80 (SD = 41.34; median = 5.0).

3.2. NMUPD and personality

As shown in Table 1, NMUPD was associated with personality factors. Individuals who reported lifetime NMUPD scored higher in neuroticism and openness to experience and lower in conscientiousness, relative to individuals who did not report lifetime NMUPD. Similarly, participants who reported NMUPD in the past 3 months scored higher in neuroticism and openness and lower in conscientiousness and agreeableness, compared to participants who did not report NMUPD in the past 3 months.

Given prior research that suggests multiple factors influence high-risk behavior, we performed a series of sequential logistic regression analyses in order to determine the independent relationship between personality and lifetime NMUPD, after controlling for demographic factors and other personality dimensions. The personality dimensions assessed for multivariate relationships with lifetime NMUPD were neuroticism, conscientiousness, and openness to experience, as these were the dimensions that had significant univariate relationships with lifetime NMUPD. For each analysis, we predicted inclusion in one of two groups: those who